REMARKS

This Amendment is in response to the Office Action mailed August 14, 2002. In the Office Action, the Examiner rejected claims 1-8 and 25-34 under 35 U.S.C. § 102, and rejected claims 21-23 under 35 U.S.C. § 103. Applicants have amended claims 1, 5, 21, 23, 25, 28, 32, and 34. No new claims have been added. Claims 1-8, 21-23, and 25-34 remain pending in the application. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Drawings

The Draftperson indicated that the drawings were objected to because of the margins, quality of copies, and non-conforming lines, numbers, and letters.

Since the drawings are acceptable for examination purposes, Applicants will postpone submission of formal drawings until the application is allowed.

Rejections under 35 U.S.C. §102

Claims 1-8 and 25-34 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Bellenger (U.S. Patent No. 5,802,054).

The Examiner asserts that Bellenger teaches every limitation claimed in independent claim 1.

As to the amended independent claim 1, Applicants respectfully submit that Bellenger does not teach, disclose, or suggest the limitation of:

> "assigning a pointer *value* to each frame *based, at least in part, on the relative order in which the indications of start of frame transmissions* associated with each frame *are received,* the corresponding pointer value associated with

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each respective frame being used to *preserve a state of frame transmission order.*" (emphasis added)

Bellenger discloses an atomic switch for local area networks with a plurality of communication ports and links. The atomic switch includes node route logic coupled to flow detect logic. The flow detect logic to monitor frames received by the ports and generate an identifying tag for use in accessing a route table memory. An identifying tag acts as a flow signature to associate a frame with a sequence of frames traversing the switch. For a flow of data frames to a particular destination, all frames in the flow would have the same identifying tag. (Col. 3, lines 7-20) A remote system can access the route table of the atomic switch and update route information for frames having a particular identifying tag. (Col. 3, lines 45-50) During this operation, all frames having the particular identifying tag are blocked until further notice. (Col. 3, lines 48-56) This permits the remote system (to which a frame was directed for routing) to *forward* that frame to its destination prior to other frames currently stored in the atomic switch. Once the frame in the remote system is forwarded to its destination, the frames in the atomic switch (having the same identifying tag) can be unblocked and sent to the new destination. (Col. 3, lines 56-65)

However, Bellenger does not disclose or suggest the above recited element of claim 1. Specifically, Bellenger does not disclose or suggest *the assignment of the plurality of pointer values based, at least in part, on the relative order in which data frames are transmitted on each of the virtual links.* As described above, Bellenger discloses that all frames of a flow are associated with a single identifying tag in order to associate said frames with a destination in the atomic switch. Updates of the routing table for frames having a particular identifying tag are done as following. The remote system to which flow frames (having a particular identifying tag) had been previously sent blocks transmission of frames (having the same identifying tag) from the atomic switch. The remote system then updates the destination (corresponding to said identifying tag) in the route table of the atomic switch.

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The frames currently in the remote system are then forwarded to their destination. Then the frames remaining in the atomic switch are forwarded to their destination. This helps maintain frame order when a remote system updates the destination routing table in the atomic switch. However, this process is only implemented during this exceptional operation of updating a routing table from a remote system. (Col. 3, lines 40-65)

Bellenger uses the same identifying tag for all frames in a flow, it does not disclose, teach, or suggest that pointer values are assigned based, at least in part, on the relative transmission order of the data frames or indications of start of frames (e.g., frames which were transmitted first get higher-priority pointer values than frames which were transmitted later but were completed or arrived first) to preserve a state of transmission order.

By contrast, the claimed invention assigns pointer values based, at least in part, on the relative order in which the indications of start of frame transmissions associated with each frame are received, the corresponding pointer value associated with each respective frame being used to preserve a state of frame transmission order. Unlike the claimed invention, Bellenger teaches a system where all the frames of a particular flow have the same identifying tag. Thus, Bellenger's tags are not pointer values that are assigned to provide an indication of the relative order of frame transmission as claimed. The identifying tag of Bellenger can also not be employed, on its own, to preserve the state of frame transmission order. Thus, the tag system of Bellenger is clearly different and distinguishable from what is claimed in the above-recited element of claim 1 where pointer values are employed to mark the relative order of frame transmission.

Because Bellenger does not teach or suggest the above-recited limitation of the amended claim 1, Applicants respectfully submit that the amended claim 1 is not anticipated by Bellenger. Independent claims 21, 25, and 32 each include a limitation similar to that distinguished in claim 1. Accordingly, Applicants respectfully request that the rejection of independent claims 1, 25, and 32 be withdrawn. Since claims 2-8, 26-31, and 33-34 depend

from the amended claims 1, 25, or 32 and include additional limitations, Applicants respectfully submit that claims 2-8, 26-31, and 33-34 are also not anticipated by Bellenger. Withdrawal of the rejections of claims 1-8 and 25-34 is therefore respectfully requested.

Rejections Under 35 U.S.C. §103

Claims 21-23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bellenger (U.S. Patent No. 5,802,054).

To establish a prima facie case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination must be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that claims 21-24, as amended, are not obvious over Bellenger for the reasons and explanations set out below.

As to the amended independent claim 21, Applicants respectfully submit that Bellenger does not teach, disclose, or suggest the following limitation of:

"a module to assign a pointer *value* to each frame *based, at least in part, on the relative order in which the indications of commencement of frame transmissions* associated with each frame *are received*, the corresponding *pointer value* associated with each respective frame being used *to preserve a state of frame transmission order*." [emphasis added]

This limitation is similar to that distinguished in claim 1 above. Because, as discussed above, Bellenger does not teach or suggest the above-recited limitation, Applicants respectfully submit that the amended claim 21 is not obvious over Belleger. Accordingly, Applicants respectfully request that the rejection of independent claim 21 be withdrawn. Since claims 22-23 depend from the amended claim 21 and include additional limitations, Applicants

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respectfully submit that claims 22-23 are also not obvious over Bellenger. Withdrawal of the rejections of claims 21-23 is therefore respectfully requested.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1   1.   (Amended) A method for improving receive performance in a data network, the method

2   comprising:

3   receiving up to a plurality of indications denoting the start of frame transmission on a

4   corresponding plurality of communication links;

5   identifying that at least one of the received indications denote the start of a flow; ~~and~~

6   dedicating a receive buffer from a plurality of receive buffers to receive all frames

7   associated with the identified flow; <u>and</u>

8   <u>assigning a pointer value to each frame based, at least in part, on the relative order in</u>

9   <u>which the indications of start of frame transmissions associated with each frame are received, the</u>

10   <u>corresponding pointer value associated with each respective frame being used to preserve a state</u>

11   <u>of frame transmission order.</u>

1   5.   (Amended) The method of claim 4, further comprising ~~assigning a pointer value to each~~

2   ~~frame of the identified flow corresponding to commencement of transmission,~~ creating a list of

3   pointer values corresponding to transmission order <u>only</u> if it is determined that the identified flow

4   requires preservation of transmission order.

1   21.   (Amended) A medium having embodied thereon a program for processing by a network

2   device, the program comprising:

3   a module to receive an indication to denote commencement of a flow of frame

4   transmissions; ~~and~~

5   a module to indicate at least one receive buffer to receive all frames associated with the

6   flow; <u>and</u>

7   <u>a module to assign a pointer value to each frame based, at least in part, on the relative</u>

8   <u>order in which the indications of commencement of frame transmissions associated with each</u>

9   <u>frame are received, the corresponding pointer value associated with each respective frame being</u>

10   <u>used to preserve a state of frame transmission order.</u>

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1 23.   (Amended) The medium of claim 21, wherein the program further comprises a module to

2 assign a pointer value to each frame of the identified flow corresponding to commencement of

3 transmission, creating a list of pointer values corresponding to transmission order only if it is

4 determined that the identified flow requires preservation of transmission order.

1 25.   (Amended) Adapted for a data network including a plurality of communication links, a

2 method comprising:

3   receiving at least one indication denoting a start of frame transmission on the

4 corresponding plurality of communication links;

5   identifying a received indication denotes commencement of a flow;

6   dedicating a buffer from a plurality of buffers to receive all frames associated with the

7 identified flow;

8   determining whether the identified flow requires preservation of frame transmission

9 order; and

10   ~~relying on the received indications associated with each frame to preserve a state of frame~~

11 ~~order transmission~~

12   assigning a pointer value to each frame based, at least in part, on the relative order in

13 which the indications of start of frame transmissions associated with each frame are received, the

14 corresponding pointer value associated with each respective frame being used to preserve a state

15 of frame transmission order.

1 28.   (Amended) The method of claim 25 further comprising ~~wherein the relying on the~~

2 ~~received indications comprises assigning a pointer value to each frame of the identified flow~~

3 ~~corresponding to commencement of transmission,~~ creating a list of pointer values corresponding

4 to transmission order only if it is determined that the identified flow requires preservation of

5 frame transmission order.

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1 32.   (Amended) A network device comprising:

2   means for receiving an indication to denote commencement of a flow of frame

3 transmissions; ~~and~~

4   means for indicating at least one receive buffer to receive all frames associated with the

5 flow; and

6   means for assigning a pointer value to each frame based, at least in part, on the relative

7 order in which the indications of commencement of frame transmissions associated with each

8 frame are received, the corresponding pointer value associated with each respective frame being

9 used to preserve a state of frame transmission order.

1 34.   (Amended) The network device of claim 32, further ~~comprising means for assigning a~~

2 ~~pointer value to each frame of the identified flow corresponding to commencement of~~

3 ~~transmission, and~~ creating a list of pointer values corresponding to transmission order if it is

4 determined that the identified flow requires preservation of transmission order.
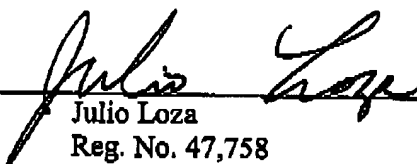
Conclusion

In view of the amendments and remarks made above, it is respectfully submitted that the pending claims are in condition for allowance, and such action is respectfully solicited. Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due. Furthermore, if an extension is required, then Applicants hereby request such an extension.

Respectfully submitted,

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